12. (new) A lithium ion secondary battery according to claim 9, wherein the R value (IB/IA) is 0.001 to 0.11.

REMARKS

New claims 11 and 12 have been added. Claims 9-12 are pending in the present application. Support for the new claims can be found throughout the specification. See, for example, page 10, line 10-11 and Example 4 in Table 2 on page 34. No new matter has been introduced by the amendments to the claims.

Attached in Appendix A is a time line and excerpts of the historical development of Timcal Group which provides that the formation of Timcal arose from the merger of Lonza and Mircal.

Also attached in Appendix B is the Timcal Group Technical Data Sheet for Timrex KS 25, e.g., the graphite formerly sold as Lonza KS 25.

Claim 9 was rejected under 35 U.S.C. § 102(e) as being anticipated by Yamada et al. (U.S. Patent 6,040,092). Claim 10 was rejected under 35 U.S.C. §103(a) as being unpatentable over Yamada.

The rejections are addressed in combination. Such a combined response is proper because each rejection relies solely upon the Yamada reference.

Each of the rejections is traversed.

The Examiner appears to ground each of the rejections on the particle size and surface area of the Lonza KS25 graphite sample recited in Embodiment 11 of Yamada.

Applicants respectfully submit that the data presented in Embodiment 11 is incorrect in view of the particle size and surface area data for Lonza KS 25 graphite, e.g., Timrex KS25 graphite, which have been reported in the Yamada patent, the Technical Data Sheet of the manufacturer (Timcal group), and other reports of surface area/particle size for Lonza graphite. The particle size and surface area measurements recited in various reports are tabulated in Table 1. The table clearly shows that all of the measurements except for Embodiments 10 and 11 of Yamada teach that KS 25 graphite has a particle size of between about 10-14 μm and a surface area of about 10-13 m^2/g.

Applicants respectfully submit that the Yamada recitation of a spherical KS25 graphite in Embodiment 10 having a particle size of 18 μm and a surface area of 7.6 m^2/g highlights the inconsistency of the data presented in Embodiment 11.

Table 1. Particle size and surface area measurements of KS 25 artificial graphite.

	Particle size (μm)	Surface area (m^2/g)
Timrex KS25 Technical Data Sheet	11.0	12
U.S. Patent 5,512,392	10.5	13
Sato Declaration of Dec. 20, 2000	10.1	11.9
Yamada, column 9, lines 61-63	18	7.6
Yamada, column 10, lines 40-43	14	10.3
Yamada, column 10, lines 57-60	14	1.5
Yamada, column 12, lines 6-10	14	10.3

Applicants note that the all recitations of "flaky" Lonsa KS 25 graphites in Yamada recite identical measurements including particle size (14 μm), d_{002} (0.336 nm), Lc (22 nm), La (15 nm), and R (0.2). The only difference between the "flaky" KS graphite of Embodiment 11 of Yamada and the graphite recited in Comparison Examples 6 and 7 of Yamada (col. 10, lines 40-43 and col

12, lines 6-10) is the surface area measurements. Embodiment 11 recites a surface area of 1.5 m^2/g and Comparison Examples 6 and 7 recite a surface area of 10.3 m^3/g.

Applicants respectfully submit that the surface area recited in Embodiment 11 of Yamada is erroneous. Moreover, Applicants believe that the correct surface area should correspond to the surface area measurements provided for other "flaky" Lonza KS14 graphites recited by Yamada, e.g., the surface area for the graphite of Embodiment 11 should be about 10 m^2/g. Therefore, Claim 9 is not anticipated by Yamada and Claim 10 would not have been obvious to one of ordinary skill in the art based on the teaching of Yamada.

It is respectfully submitted that the subject application is in condition for allowance. Early and favorable action is requested.

Applicants believe that additional fees are not required for consideration of the within Response. However, if for any reason a fee is required, a fee paid is inadequate or credit is owed for any excess fee paid, you are hereby authorized and requested to charge Deposit Account No. **04-1105**.

Respectfully submitted,

Date: January 30, 2003

By: _____

John B. Alexander, Ph.D. (Reg. No. 48,399)
EDWARDS & ANGELL, LLP
P.O. Box 9169
Boston MA, 02209
(617) 439-4444

VERSION WITH MARKINGS TO SHOW CHANGES TO CLAIMS

Please note that additions to the claims are shown underlined and deletions are shown in brackets.

IN THE CLAIMS:

Kindly add new claims 11 and 12, as follows:

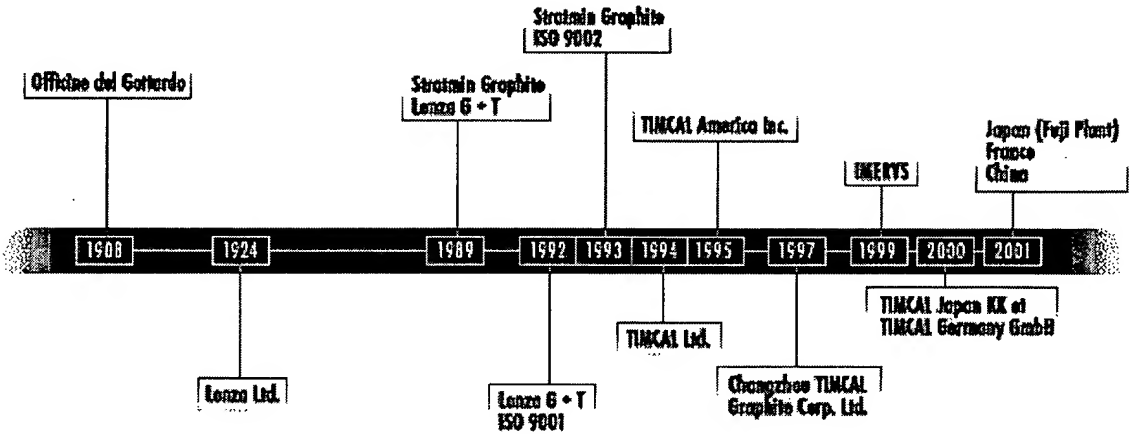
11. (new) A lithium ion secondary battery according to claim 9, wherein the R value (IB/IA) is 0.001 to 0.15.

12. (new) A lithium ion secondary battery according to claim 9, wherein the R value (IB/IA) is 0.001 to 0.11.

APPENDIX A

09/155/635
H. Sato et al.

Corporate history of Lonza (from www.timcalamerica.com):



1924
Officine del Gottardo is acquired by chemical company **LONZA Ltd.** Subsequently, the company entrances its manufacturing capacity in several stages. New graphite furnaces are installed in the early 70s and again in 1980-1985. Under the name of **LONZA Graphite**, the company's products assume worldwide leadership. In 1971, a new R&D and application technology center starts its activities.

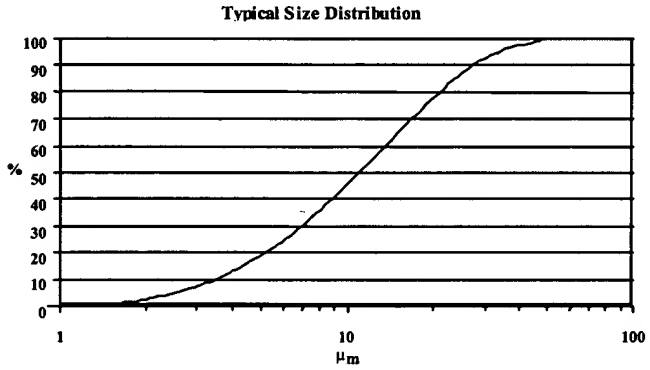
1994
LONZA G+T is acquired by **MIRCAL**, a subsidiary of **IMETAL**. As a result, the company continues its operations under the new name of **TIMCAL Ltd.**

APPENDIX B

TIMCAL GROUP

Technical Data Sheet

TIMREX® KS25
Graphite



Guaranteed Values

Ash	**0.1**	**% max.**
Moisture	**0.5**	**% max.**
Crystallite Height	**80**	**nm min.**
Interlayer Distance	**0.3354-0.3359**	**nm**
d90 (Laser Malvern)	**22.0-33.0**	**µm.**

Typical Values

Purity		
Ash	0.05	%
Moisture	0.1	%
Al	14	ppm
As	<0.5	ppm
Ca	90	ppm
Co	<1	ppm
Cr	<1	ppm
Cu	<1	ppm
Fe	50	ppm
Mo	<1	ppm
Ni	2	ppm
Pb	<2	ppm
Sb	<0.1	ppm
Si	90	ppm
Ti	7	ppm
V	3	ppm
S	40	ppm
Cristallinity		
LC	>90	nm
c/2	0.3356	nm
Density		
Xylene	2.255	g/cm^3
Scott	0.14	g/cm^3
Specific Surface Area		
BET	12	m^2/g
Particle Size Distribution		
Laser Diffraction (Malvern)		
d_{10}	3.5	µm
d_{50}	11.0	µm
d_{90}	27.2	µm

DOC.3.01.02.405
Version 09/00

TIMCAL-STRATMIN
TIMCAL Ltd., CH-6743 Bodio, Switzerland
Phone: +41 91 873 20 10 –Fax: +41 91 873 20 19 –http://www.timcal.com

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